

Rancho La Costa Habitat Conservation Area

A Dedicated Natural Open Space System Set Aside As Part
of the La Costa Villages and University Commons Developments
which also includes the “Nelson” parcel.

Annual Report

October 2004 - September 2005

Prepared for:

U.S. Fish and Wildlife Service
California Department of Fish and Game
City of Carlsbad
City of San Marcos

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INTRODUCTION

This report summarizes the management activities carried out at the Rancho La Costa Habitat Conservation Area (HCA) by the preserve manager from October 1, 2004 to September 31, 2005. The HCA was created by combining several areas which were dedicated to the Center for long term management from the La Costa Villages and University Commons developments. Specific parcel names have been referred to as the Oaks, Ridges, Choumas-Pappas, Questhaven and Greens for La Costa Villages; Huff, Setter, Wilern, Brouwer, Elfin Forest, “on-site”, Frank’s Peak, Pfau and Winston for University Commons and the Nelson parcel.

From February to about June, 2002, the Center received title to the Oaks, Ridges, Huff, Setter, Wilern and Brouwer parcels. The Center received title and easements to Frank’s peak and Pfau parcels and all University Commons parcels in October of 2004. The Center closed escrow for the “Greens” property, the Questhaven parcels, and the Choumas-Pappas parcels, in September of 2005. The Nelson property was deeded to the Center in 2001, and the endowment was received in July of 2004 from the National Fish and Wildlife Foundation. Management activities reported in this document refer to activities undertaken on all properties.

The Preserve is located approximately 2 miles inland from the Pacific Ocean and lies between El Camino Real, near Palomar Airport Road and Elfin forest. (see Figures 1 and 2). The Preserve consists of several parcels separated by roads, homes, golf courses and other developments. Parcel sizes range from a few acres to over 500 acres. Vegetation communities include Diegan coastal sage scrub, chaparral, sycamore/oak woodland, willow woodland, native and non-native grassland, and disturbed areas.

The tasks and objectives discussed below are those derived from the *Habitat Management Plan for Rancho La Costa Habitat Conservation Area*, prepared by the Center for Natural Lands Management (Center) and submitted to the City of Carlsbad, City of San Marcos, U.S. Fish and Wildlife Service and California Department of Fish and Game in June of 2005.

Management of the Preserve includes signing and maintaining fences and gates (capital improvements), biological surveys, habitat restoration, public services and reporting. Each of these activities and their Year 2004-5 results are summarized below and fully described within this report.

SUMMARY

- 30 pair and a single male coastal California gnatcatcher were observed during bird surveys. Of the 31 CAGN territories, 17 were on properties within the City of Carlsbad, 6 pair were in San Marcos and 8 pair were in the County (La Costa Villages off-site

mitigation properties located in the County of San Diego).

- Other sensitive bird species were observed, mapped and noted.
- Vegetation transects were permanently set up in coastal sage scrub habitat and measurements were taken in the spring of 2005.
- 5 vegetation plots were created within the *B. filifolia* habitat at La Costa Greens and measurements were taken.
- Signs were placed where appropriate within the Preserve.
- Non-native plant species such as fennel, tamarisk, eucalyptus, castor bean, mustard, acacia and pampas were removed.
- Revised and submitted a Habitat Management Plan for the property.
- The Center spent considerable time and resources enforcing unwanted trespass.

CAPITAL IMPROVEMENTS

The Center constructed two new gates to discourage unwanted trespass in Hidden Canyon (Huff parcel). We set new signs at Box Canyon. All signs state that the site is a habitat conservation area, which activities are permitted or illegal, and provides the name and phone number of the Center. No other capital improvements were done during the year.

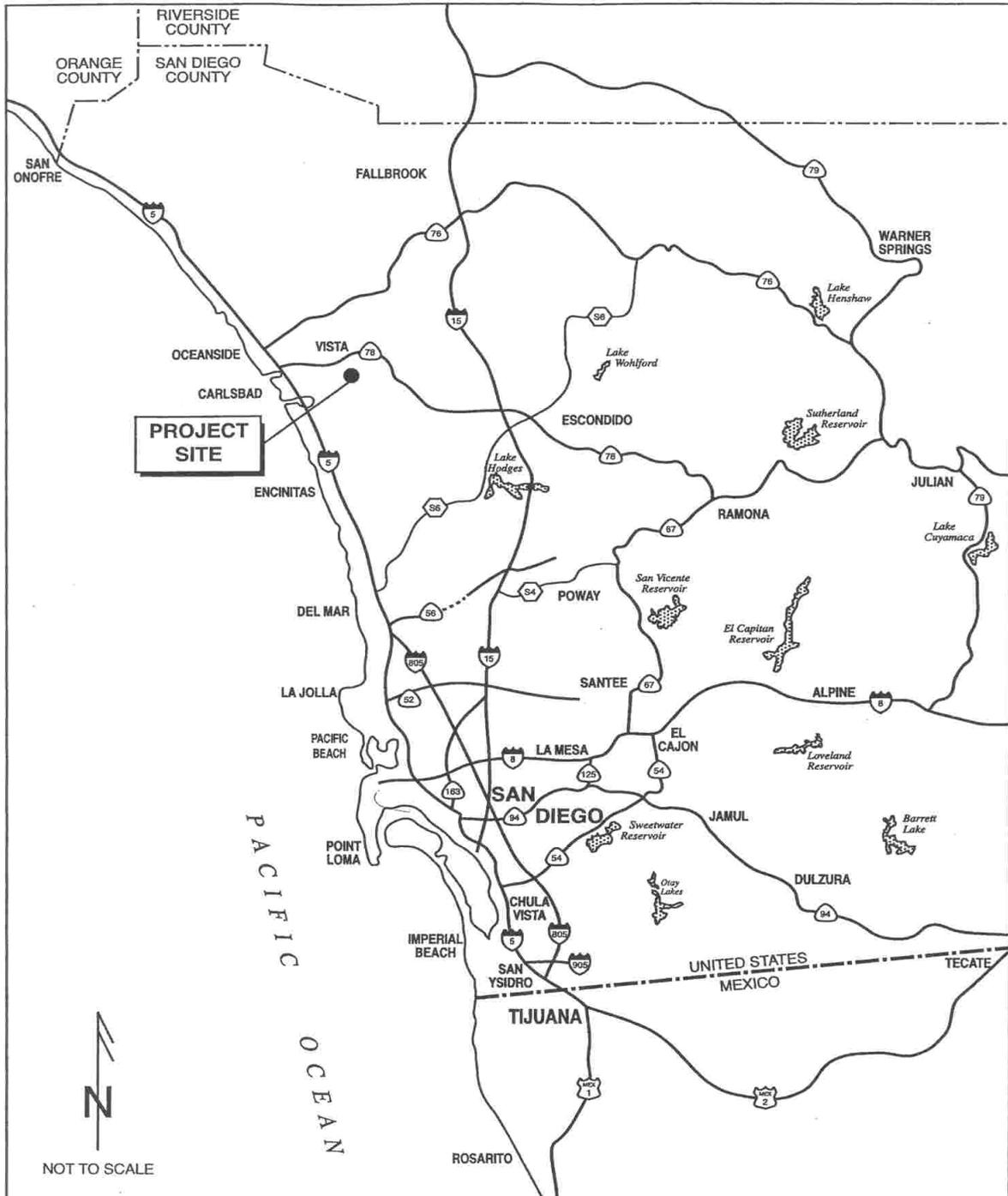
BIOLOGICAL SURVEYS

Year 2005 was the 4th year of biological surveys carried out by the Center at the HCA. Previous surveys had been conducted by numerous biological consulting firms and are reported in the biological impact assessment reports and EIR's for the La Costa Villages and University Commons Open Space Areas.

The *Habitat Management Plan* outlines the goals of biological monitoring at the HCA. The general goal of the monitoring activities at the HCA at this time is to 1) collect baseline data and 2) begin to develop population trend data on individual species within the HCA, and for certain taxonomic groups and the vegetation community. This information will allow us to make better informed management decisions should an individual species or population be declining, or possibly increasing, in population size. It should also allow the Center to evaluate changes in the animal community as it correlates to changes in the vegetation communities.

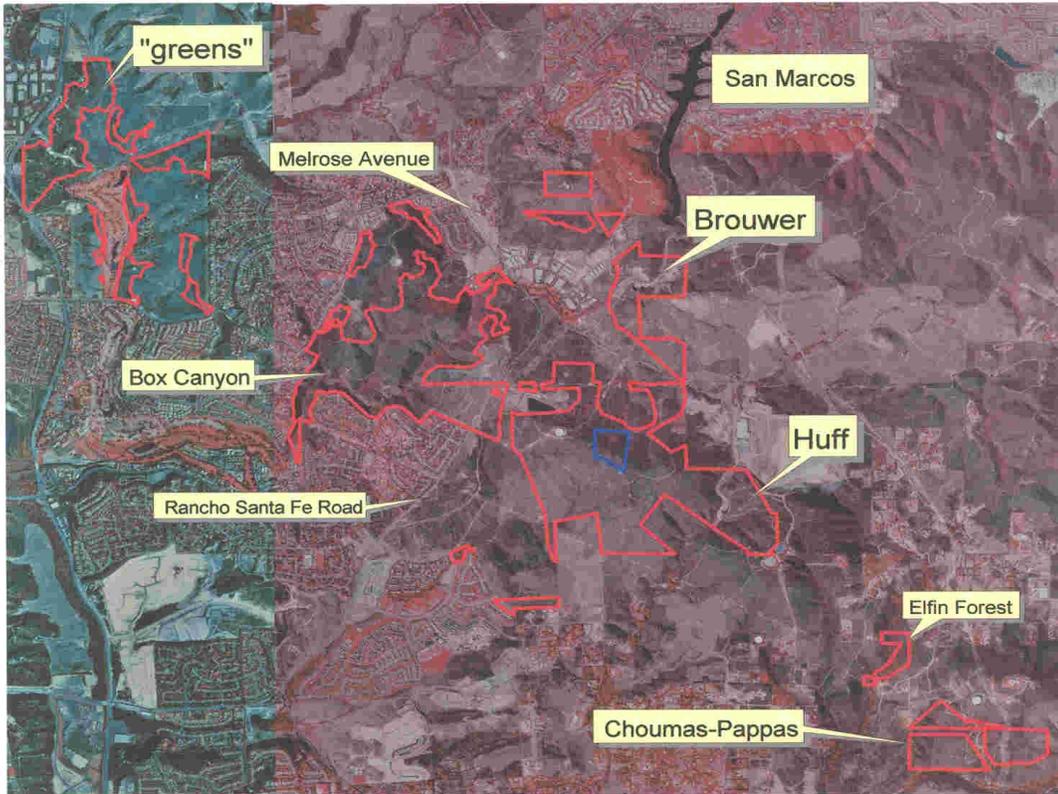
Monitoring in 2005 included focused gnatcatcher and sensitive bird surveys, coastal sage scrub vegetation analysis, and non-native grassland vegetation analysis.

Table 1 outlines survey dates, times, weather conditions and type of survey conducted. Unless noted otherwise, all surveys and monitoring activities were conducted by Markus Spiegelberg who is permitted by the USFWS and CDFG (USFWS PRT-787-924, Scientific Collectors Permit # 801106-05) for the gnatcatcher and other listed species.



Regional Location Map

Figure 1



-  Rancho La Costa Preserve Boundary
-  Not a Part of the Preserve Areas

Figure 2
Preserve Vicinity

1. Reptile and Amphibians

No reptile surveys were conducted. There are three areas where water “pools” at the HCA. These pools were checked for tadpoles. Only pacific chorus frogs were observed (*Hyla regilla*).

2. Birds

The goal of bird surveys in 2005 was to determine the distribution and abundance of coastal California gnatcatchers (CAGN) and other sensitive birds species within the HCA. The HCA was divided into areas ranging from 50 to 100 acres in which 2 to 5 focused surveys separated by at least 7 days were conducted to search for CAGN and other sensitive species. These surveys were conducted across the entire property except for Frank’s peak and Pfau.

Surveys included mapping and noting particular behaviors of the coastal California gnatcatcher, and other sensitive bird species. Any nesting behavior or evidence of nesting or nesting success, was noted for all species. Taped vocalizations of gnatcatchers were used as necessary.

30 pair and 1 single male gnatcatcher (CAGN) was observed within the survey areas (Figures 3a-c). Breeding activity and behaviors were noted for several gnatcatcher pairs, a few nests were found, and a number of family groups were noted across the property.

Of the 31 CAGN territories, 17 were on properties within the City of Carlsbad, 6 pair were in San Marcos and 8 pair were in the County (La Costa Villages off-site mitigation properties located in the County of San Diego).

Other notable species include 3 red-tailed hawk (*Buteo jamaicensis*) nests, a number of Bell’s sage sparrow (*Amphispiza belli belli*), least Bell’s vireo (*Vireo bellii pusillus*) and grasshopper sparrows (*Ammodramus savannarum perpallidus*) (see Figures 3a-c)

3. Mammals

No focused surveys for mammals were conducted in 2004-5. Species observed during other surveys include cottontail rabbit (*Sylvilagus audubonii*), black-tailed jackrabbit (*Lepus californicus bennettii*), coyote (*Canis latrans*), California ground squirrel (*Spermophilus beecheyi*) and mule deer (*Odocoileus hemionus*). Mule deer (*Odocoileus hemionus*) tracks were observed at the eastern entrance to the Rancho Santa Fe wildlife undercrossing and in other areas east of Rancho Santa Fe Road.

Table 1. Survey dates, times and weather conditions.

Survey Date	Time	Weather Conditions	Type of Survey*	Parcel (observer initials)*
March 8, 2005	7:10-10:30	Overcast, 0 mph wind, 55-59 °F	CAGN	Greens (MS)
March 11, 2005	07:15-11:00	Overcast, 0-3 mph wind, 59-65 °F	CAGN	Box Canyon (MS)
March 16, 2005	06:45 - 11:30	Clear, 0 mph wind, 56-68 °F	CAGN	Greens (MS)
March 28, 2005	06:50 - 10:00	Partly cloudy, 60-72 °F	CAGN	Box Canyon (MS)
April 1, 2005	06:45 - 11:30	Clear, 2-5 mph wind, 60-75 °F	CAGN	Greens (MS)
April 1, 2005	06:30 - 8:15	Clear, 5-20 mph wind, 66-74 °F	CAGN	Choumass-pappas (KF)
April 8, 2005	06:50 - 11:00	Partly cloudy, 0-3 mph wind, 55-70 °F	CAGN	Choumass-pappas (KF)
April 11, 2005	06:15 - 10:00	Clear, 0 mph wind, 48-75 °F	CAGN	RLC middle (KF)
April 12, 2005	06:25 - 10:30	Overcast, 0 mph wind, 48-68 °F	CAGN	RLC middle (KF)
April 13, 2005	06:30 -10:15	Clear, 0 mph wind, 53-61 °F	CAGN	RLC middle (KF)
April 15, 2005	06:25 - 10:30	Clear, 0-3 mph wind, 53-80 °F	CAGN	Choumass-pappas (KF)
April 22, 2005	06:15 - 10:45	Cloudy, 1-3 mph wind, 57-64 °F	CAGN	Choumass-pappas (KF)
April 25, 2005	06:20 - 10:30	Partly cloudy, 0 mph wind, 52 -6 °F	CAGN	RLC middle (KF)
April 26, 2005	06:30 - 10:00	Partly cloudy, 0-3 mph wind, 51-66 °F	CAGN	RLC middle (KF)
April 29, 2005	06:10 - 10:15	Cloudy, 0 mph wind, 55-62 °F	CAGN	RLC middle (KF)
May 9, 2005	06:05 - 9:55	Overcast to clear, 0-1 mph, 57-68 °F	CAGN	RLC middle (KF)
May 10, 2005	06:00 - 9:40	Cloudy, 0 mph wind, 53-68 °F	CAGN	RLC middle (KF)
May 12, 2005	06:00 - 10:00	Clear, 0 mph wind, 54-68°F	CAGN	RLC middle (KF)
May 23, 2005	06:00 - 10:50	Overcast, 0 mph wind, 65 °F	CAGN	U.C. on-site, Winston & Brouwer (KF)
June 6, 2005	06:20 - 11:00	Partly cloudy, 0-3 mph wind, 61-66 °F	CAGN	U.C. on-site, Winston & Brouwer (KF)
June 21, 2005	06:15-10:30	Foggy, 0 mph wind, 60 °F	CAGN	U.C. on-site, Winston & Brouwer (KF)

* CAGN = Directed survey for coastal California gnatcatcher.
 KF=Kylie Fischer; MS= Markus Spiegelberg



Sensitive Species Observed

-  Coastal California gnatcatcher
-  Least Bell's vireo
-  Red-tailed hawk
-  White-tailed kite
-  Rancho La Costa HCA Boundary



Figure 3a
Sensitive Species

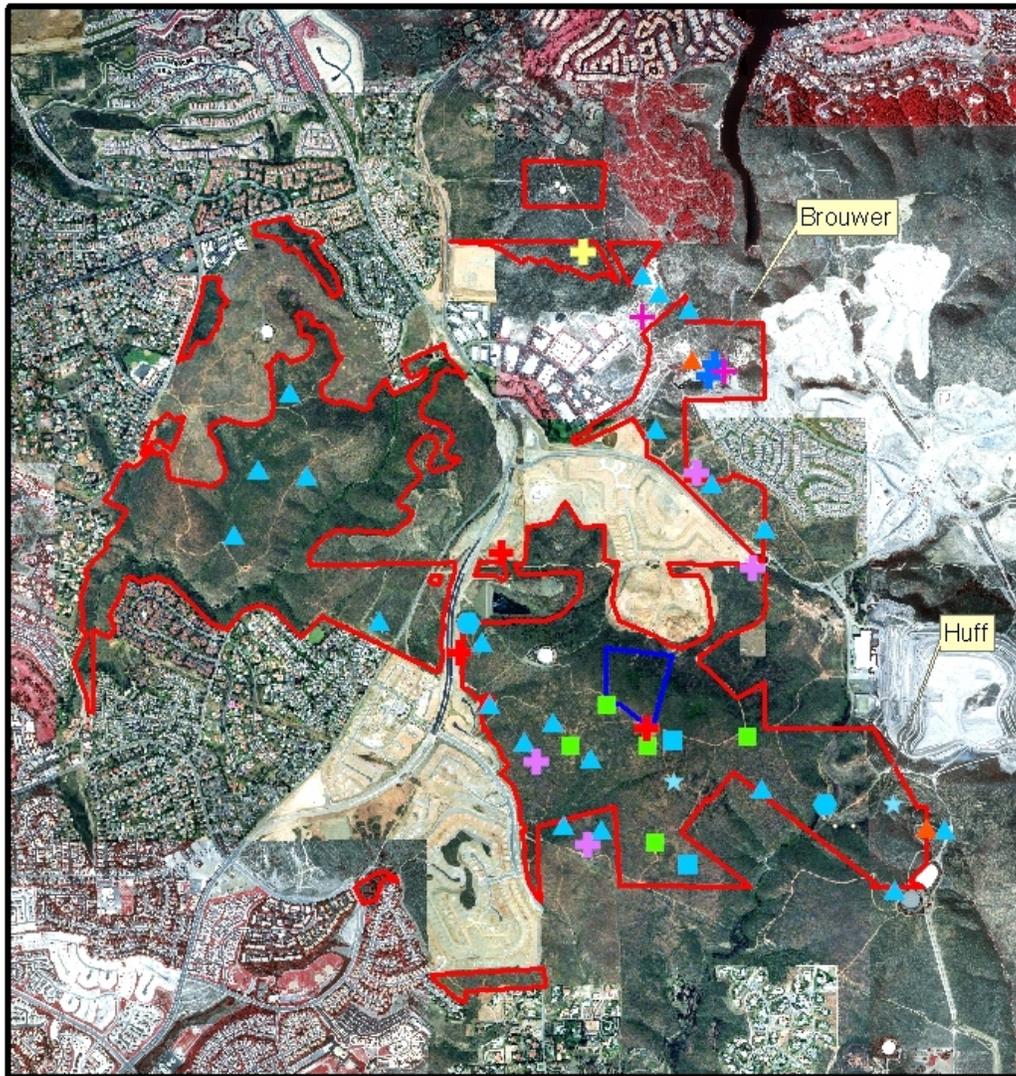
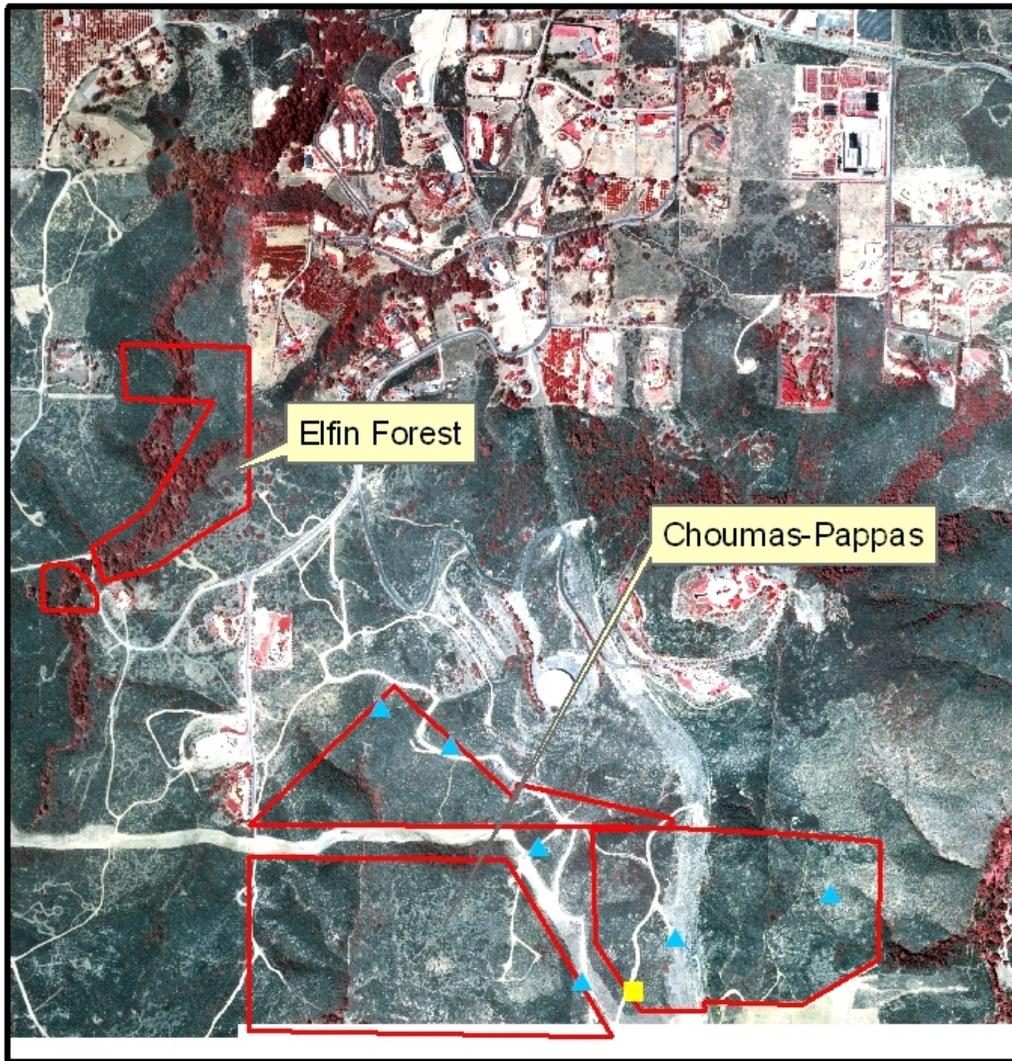


Figure 3b
Sensitive Species



- Sensitive Species Observed**
- ▲ Coastal California gnatcatcher
 - Cooper's hawk
 - Rancho La Costa HCA Boundary



Figure 3c
Sensitive Species

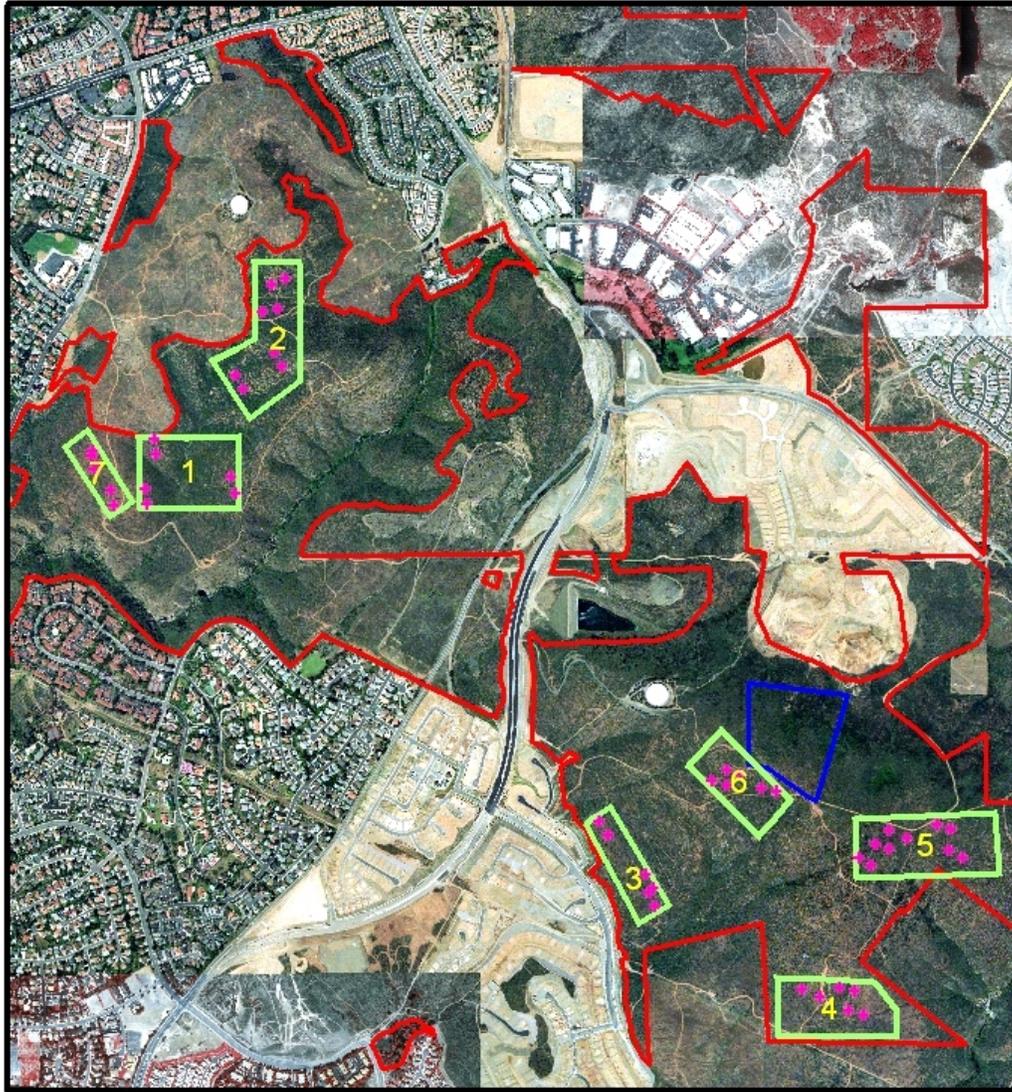
4. Vegetation Sampling

In 2005, the Center established 7 vegetation study areas (ranging from 7 to 25 acres) within the coastal sage scrub within which we set 3-6 randomly assigned (stratified random design) permanent 50-meter vegetation transects. The total study areas was from Box Canyon east to Hidden Canyon (Huff property). The transects were randomized by sub-habitat association (Diegan CSS vs. black sage dominated CSS), fire history, and distance from edge (Figure 4). The goal of this work is to establish base-line conditions of vegetation structure and composition and to begin to track changes in these components. All vegetation analysis was conducted on March 31 and April 14, 2005. Brant Primrose, RECON botanist, assisted in this work and identified plant species along each transect.

Results of the coastal sage scrub vegetation monitoring effort will be fully analyzed at a later date. However, preliminary results show mixed species composition and vegetation structure at different locations within the preserve, vegetation sub-habitat association and even within similar vegetation associations (Table 2). Cover of non-native grasses and herbaceous species also varies between areas.

In 2004, the Center began some pilot studies on the Greens parcel where there are several thousand *Brodiaea filifolia*. Our goal is to quantify the cover of non-native and native plant species so that we can start non-native removal programs and evaluate their progress. In 2004 we created a 15 meter X 15 meter stratified random plot with 5 randomly placed transects along one of the sides of the plot. In 2005, we added 4 additional plots. Along each transect, we placed randomized 0.25 x 0.5 meter quadrats spaced 1 meter apart. Within each quadrat we estimated percent cover of each species and counted, or estimated, the number of individuals in each quadrat. (*Brachypodium distachyon* was so abundant in each quadrat that we just estimated cover as counting each individual would have taken too much time). The predominant non-native in the one lense studied in 2004 (and others not studied) is *Brachypodium distachyon* (incorrectly stated as *Bromus carinatus* in previous reports)(Table 4). As the data shows, these areas are mostly disturbed by non-native plant species.

In June of 2005 we removed all non-native thatch from Plots 1 and 2 (see Habitat Restoration Section of this report). Our goal is to determine whether thatch removal can reduce non-native grass cover and promote native growth and cover.



-  Transect end points
-  Vegetation Study Areas
-  Not A Part
-  Rancho La Costa HCA boundary



Figure 4
Vegetation Study Areas

Table 2. Results of Upland Vegetation Analysis.

Species	Average Percent Cover						
	Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	Area 7
<i>Adolphia californica</i>				27.5			
<i>Adenostoma fasciculatum</i>					2.0		
<i>Agrostis diegoensis</i>	0.7		24.2	2.0	20.8	4.6	
<i>Anagalis arvensis</i> *		1.0			0.8		0.7
<i>Antirrhinum kellogii</i>					0.4		0.7
<i>Antirrhinum nuttallianum</i>				1.3			
<i>Apiastrum angustifolium</i>	7.8			3.9	1.6	0.7	
<i>Artemisia californica</i>		2.9	3.9	3.3	1.2		4.6
<i>Avena spp.</i> *			7.2	13.7	18.8	12.4	
Bare ground	5.2	10.3	2.6	0.7		2.0	0.7
<i>Bloomeria crocea</i>		0.7					
<i>Bromus hordeaceus</i>	0.7		17.6	3.3	16.5	7.2	
<i>Bromus madritensis ssp. rubens</i> *	4.6	1.5	9.8	26.1	13.3	22.2	4.6
<i>Brassica nigra</i> *			6.5				
<i>Calystegia macrostegia</i>						2.0	
<i>Centaurea melitensis</i> *	5.2		15.0	41.8	24.3	5.9	3.3
<i>Ceanothus tomentosus</i>					3.9		
<i>Chlorogalum parviflorum</i>		0.5	2.0				0.7
<i>Crassula connata</i>	0.7	8.8	2.6	1.3	0.4		
<i>Cryptantha sp.</i>	9.2				3.9		
<i>Daucus pusillus</i>	3.3	3.4	5.2	15.0	5.5	1.3	24.8
<i>Dichelostemma capitatum</i>				3.3	3.1	0.7	0.7
<i>Encelia californica</i>	9.2			7.2			
<i>Eriophyllum confertiflorum</i>	0.7	0.5	2.6		0.8	1.3	
<i>Eriogonum fasciculatum</i>	2.6	1.0	7.2	18.3	3.5	2.0	0.7
<i>Erodium ssp.</i>			34.6	11.8	10.6	3.9	41.8
<i>Eschscholzia californica</i>				7.2		1.6	
<i>Filago gallica</i> *		0.5	3.3		2.0	0.7	1.3

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<i>Table 2 continued</i>	Average Percent Cover						
Species	Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	Area 7
<i>Galium angustifolium</i>			5.9	5.9	1.2	0.7	2.0
<i>Gilia angelensis</i>				0.7	0.8		0.7
<i>Hazardia squarrosa</i>		1.5					
<i>Hemizonia fasciculata</i>	13.7	1.0	35.3	29.4	15.3	3.9	45.1
<i>Hypochaeris glabra*</i>					0.4	1.3	
<i>Lasthenia californica</i>					2.7		
<i>Lotus hamatus</i>	7.2		6.5	32.0	22.4	11.1	22.9
<i>Lotus scoparius</i>			3.9	2.0	9.8	4.6	0.7
<i>Lupinus bicolor</i>					1.2	1.3	
<i>Malosma laurina</i>	8.5	5.9	0.7	1.3	8.2	8.5	7.8
<i>Malacothamnus fasciculatus</i>	0.7				0.4		0.7
<i>Marah macrocarpus</i>						0.7	
<i>Mirabilis californica</i>				3.3			
<i>Microseris elegans</i>	0.7		16.3	11.8	14.5	15.7	3.3
<i>Nasella pulchra</i>			1.3	1.3	0.4	9.8	
<i>Navarretia hamata</i>	4.4						
<i>Oxalis pescaprae*</i>			1.3				3.9
<i>Phalaris ssp.*</i>					0.4	2.6	
<i>Phacelia distans</i>				5.9			
<i>Plagiobothrys acanthocarpus</i>			0.7	11.1			
<i>Rhus integrifolia</i>		0.5					
Rock		2.5		0.7	0.4	0.7	
<i>Salvia mellifera</i>	71.2	75.5			29.0	50.3	
<i>Selaginella cinerascens</i>	0.7	0.5	2.0	0.7	0.8		
<i>Silene gallica*</i>	0.7		6.5	0.7	3.1	2.0	20.9
<i>Sonchus oleraceus*</i>		2.7	3.9	1.2			
<i>Stephanomeria diegoensis</i>					0.4	2.6	
<i>Trifolium microcephalum</i>					9.4	3.3	
<i>Vicia ludoviciana*</i>			1.3	0.7		0.7	2.6
<i>Zygadenus fremontii</i>		2.5					2.6

Table 4. No-native Grassland Vegetation Study Results.

Species	Average Percent Cover (Frequency =# of quadrats containing species)				
	Plot 1	Plot 2	Plot 3	Plot 4	Plot 5
<i>Avena sp.*</i>	0.4	3.5	2.3	0.7	13.8
<i>Bloomeria crocea</i>			0.1	0.1	0.1
<i>Brachypodium distachyon *</i>	73.8	92.9	77.6	78.6	85.0
<i>Brassica nigra*</i>					0.1
<i>Brodiaea filifolia</i>		0.1 (2)	1.3 (4)		0.3 (4)
<i>Centaurea melitensis*</i>	13.1	0.7			0.1
<i>Foeniculum vulgare*</i>	0.2	0.1	2.1	3.1	0.7
<i>Grindelia camporum</i>					2.1
<i>Hazardia squarrosa</i>	0.1			0.5	
<i>Hemizonia fasciculata</i>	6.4	0.1			0.6
<i>Lolium ssp.*</i>	0.8		0.3	0.3	0.4
<i>Microseris elegans</i>		0.1	0.5	0.8	
<i>Nassella pulchra</i>			1.9		
<i>Plantago virgata</i>			0.1		
<i>Silene gallica</i>			0.1		
<i>Sisyrinchium bellum</i>	1.4		2.3	7.9	
<i>Sonchus sp.</i>				0.1	0.1

6. Plant Species and Sensitive Plants

In 2005, the only focused sensitive plant survey was for *Brodiaea filifolia*, of which we estimate about 2,500 to 3,000 individuals at the Greens property.

HABITAT RESTORATION

Habitat restoration goals for the HCA at this time include removing non-native plants and may in the future include other tasks. There are several populations of pampas grass, eucalyptus, fennel, ice plant and other non-native species. Also, it should be noted that habitat restoration

activities, which include non-native plant removal, will be conducted between 2003-2008 on the “Greens”, Brouwer and Huff parcels by Morrow Development and Brookfield Homes, the developers of the La Costa Villages and the University Commons Open Space. These projects are ongoing.

In 2004-5 we eradicated about 50 pampas grass clumps, sprayed about 100 tamarisk resprouts at the greens, cut and sprayed a few small Eucalyptus trees, sprayed about 10,000 fennel clumps from the Greens (within *B. Filifolia* habitat), and about a acre of fountain grass (*Penisitum* spp.) near Rancho Santa Fe Road. We also sprayed all fuel breaks, which were covered in non-native species such as *Chrysanthamum* spp., *Erodium* spp. and mustard (*Brassica* spp.)

In June of 2005 we weed-whipped and raked all non-native grass thatch from two of the vegetation plots (1 and 2) at the Greens property. We took photographs of our work and are sampling the areas using permanent vegetation plots. We noted that birds immediately started to feed on the opened ground.

PUBLIC SERVICE

CNLM public service activities include patrolling, community letters, nature walks and public education. During this fiscal year, most of the public service activities at the HCA involved patrolling and enforcement and meeting with easement holders. At this time, the western portion of the HCA (Box Canyon) is posted as “No Trespassing”. This is either because the Center does not want people in the canyon area, or because access to the HCA requires people to cross over private land. The eastern portions of the HCA are open to the public for hiking and mountain biking, but no motorized vehicles or firearms are allowed.

The Center patrolled the HCA on a regular basis, sometimes during biological surveys and sometimes during directed patrolling efforts.

In general the HCA does not have an excessive amount of negative use by people in the area. We cited at least 20 people who were cliff jumping in Box Canyon. In 2002 we had numerous parties and bonfires near Box Canyon and on the Nelson property. We have not seen any evidence of these activities since early 2003 at these locations.

REPORTING

Reporting activities include report writing, all data analysis, GIS, meetings and regional coordination, and photo documentation activities.

Data that has been entered into ARCVIEW GIS (9.1) includes sensitive species locations, parcel boundaries, sensitive plant and animal locations, pit array locations and photo-documentation stations.

About 20 photo-documentation stations were set up in 2003 and digital photographs were taken in each location. Photo-documentation will resume in 2006 at these stations. A number of photo's were taken during the year of habitat enhancement projects and plants and wildlife observed.

In June of 2005, the Center completed and submitted the *Habitat Management Plan for the Rancho La Costa Habitat Conservation Area*. This document summarizes work activities since project inception and provides direction and time lines for future work. This document covers all properties listed in the introduction of this document. It also provides budget and financial information.

This report represents the fourth annual report for the HCA. An annual work plan for 2005-6 will be provided to the wildlife agencies in December of 2005 under a separate cover.

Finally, the Preserve manager has maintained all necessary agency permits to allow the continued monitoring of the HCA's biota.

Budgets/Finances: The total 2004-5 expenditures for Nelson, La Costa Villages, University Commons and Elfin Forest (part of U.C.) was \$8,057, \$77,254, \$31,200 and \$4,075 from planned budgets of \$9,835, \$75,281, \$32,609 and \$5,497, respectively.

The total funds available (September 30, 2005), including endowment and temporarily restricted funds, are \$80,431, \$1,587,875, \$730,191 and \$138,936 for the Nelson, La Costa Villages, University Commons and Elfin Forest projects, respectively. All funds have been received from the developers that set aside these preserves.

SUMMARY & DISCUSSION

Management at the Rancho La Costa Habitat Conservation Area this year was successful at protecting the HCA from human encroachment, building baseline biological data, removing non-natives and developing a better understanding of the HCA and its regional context. HCA management in the next year will involve more biological surveys, non-native removal and public outreach. A detailed work plan for the Year 2005-2006 fiscal year has been developed for this purpose.